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REMARKS

Claim 1 has been amended herein in this Amendment A to more particularly claim the invention. Claim 1 has been amended to require the rubber based adhesive to be selected from the group consisting of styrene-isoprene-styrene, styrene-butadiene-styrene, styrene-ethylene/propylene-styrene, styrene/ethylene-co-butadiene/styrene, and styrene-poly(ethylene-propylene)-styrene-poly(ethylene-propylene). Support for this amendment can be found in original dependent claim 11, and further, in the specification on page 16, lines 6-21. Additionally, claim 1, as amended, contains the claimed limitation of requiring the adhesive composition to be suitable for bonding together a first elastomeric substrate and a second substrate. Support for this amendment can be found in the specification on page 4, lines 15-20.¹ Claim 11 has been canceled. After entry of this Amendment A, claims 1-10 and 12-14 will be pending in this case. No new matter has been added by these amendments. Applicant respectfully requests reconsideration and allowance of all pending claims.

1. Rejection of Claims 1, 4-7, and 12-13 Under 35 U.S.C. §102(b)

Reconsideration is requested of the rejection of claims 1, 4-7, and 12-13 under 35 U.S.C. §102(b) as being anticipated by JP 62081470A.

Claim 1, as amended herein, is directed to an elastic

"The [elastic attachment] adhesive compositions of the invention can be applied to a wide variety of substrates, including nonwoven webs, woven webs, films, and elastic strands, and is particularly beneficial when used with elastomeric substrates." Specification at page 4, lines 15-18.

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attachment adhesive composition comprising between about 70% and about 90% rubber-based adhesive, and between about 10% and about 30% crystalline polymer having a degree of crystallinity of at least about 40%. The rubber based adhesive is selected from the group consisting of styrene-isoprene-styrene, styrene-butadiene-styrene, styrene-ethylene/propylene-styrene, styrene/ethylene-co-butadiene/styrene, and styrene-poly(ethylene-propylene)-styrene-poly(ethylene-propylene). The elastic attachment adhesive composition is suitable for bonding together a first elastomeric substrate and a second substrate.

JP 62081470 discloses a hot-melt adhesive composition comprising (A) 5-70wt% copolymer obtained by the hydrogenation of a styrene-isoprene-styrene block copolymer or styrene-butadiene-styrene block copolymer; (B) 10-70wt% tackifier having a softening point of 60-150°C; and (C) 10-75wt% of crystalline polypropylene (e.g., a powdery polypropylene prepared by polymerizing propylene or by decomposing an isotactic polypropylene) having a number-average molecular weight of 20,000 or less. Optionally, another polymer (e.g., an ethylene-propylene copolymer), a wax, an extender oil, or an aggregate can be utilized.

Significantly, JP 62081470 fails to disclose an adhesive composition comprising between about 70% and about 90% of a rubber based adhesive. This is a requirement of amended claim 1 and is a significant aspect of Applicant's invention.

As stated in M.P.E.P. § 2131, a claim is anticipated only if each and every element of the claim is described in the prior art reference. Further, as stated in M.P.E.P. §2131.03 (Anticipation of Ranges), "when the prior art discloses a range which touches

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the claimed range², but no specific examples fall within the claimed range are disclosed, a case by case determination must be made as to anticipation. In order to anticipate the claims, the claimed subject matter must be disclosed in the reference with 'sufficient specificity' to constitute an anticipation under the statute." Because, the cited reference fails to teach each and every element of claim 1 with sufficient specificity as required by the statute, it cannot be said to be novelty barring.³

As noted above, JP 62081470 discloses an adhesive composition comprising a copolymer having the broadest range of 5-70wt%, and preferably requiring from 10-50wt% of such copolymer. Additionally, as shown in the working examples and as set forth in the Table on page 11 of the reference, the amounts of copolymer actually utilized in various adhesive compositions evaluated were 15wt%, 28wt%, and 24.5wt%. These values are far below the broadest endpoint range of 70wt% set forth in the reference. Specifically, as expressly stated on page 4 of the reference, "an amount in excess of 70wt% may not only reduce the adhesive strength but [will] also adversely affect the fluidity when the adhesive is being heated and melted, and this is undesirable."

²Applicant asserts that this is the case in the present application: the reference discloses 5wt% to 70wt%, and claim 1 requires 70wt% to 90wt%. As such, the "70wt%" requirements touch.

³M.P.E.P. § 2131.03 states that "sufficient specificity" is fact dependent. For example, if the claims are directed to a narrow range, the reference teaches a broad range, and there is evidence of unexpected results within the claimed narrow range...it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of the claims.

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Claim 1, as discussed above, requires a range of 70% to 90% rubber based adhesive. The principal teaching that one skilled in the art would take away from a thorough reading of JP 62081470 is that substantially less than 70% of the copolymer should be utilized in preparing the adhesive composition. Both the preferred range and the working examples support an amount substantially less than that of the upper limit of 70wt% set forth in the reference. Because JP 62081470 cannot be said to set forth the Applicant's subject matter of claim 1 with sufficient specificity to constitute anticipation, and the Office has failed to set forth specific reasons for anticipation, claim 1 is novel and patentable over the reference.

Claims 4-7, and 12-13 depend from claim 1 and are patentable for the same reasons as claim 1 set forth above, as well as for the additional elements they require.

2. Rejection of Claims 1-7 and 12-13 Under 35 U.S.C. §102(e).

Reconsideration is requested of the rejection of claims 1-7 and 12-13 under 35 U.S.C. §102(e) as being anticipated by Finerman et al. (U.S. 6,288,171).

Claim 1, as amended herein, is discussed above.

Finerman et al. disclose thermoplastic vulcanizate compositions comprising a polypropylene thermoplastic phase and a rubber phase modified with random propylene copolymers. Thermoplastic vulcanizates are typically designed to be molded and used as gaskets, seals, bumpers, oil-well injection lines, and the like. The compositions comprise 6-85wt% of semi-crystalline polypropylene and random propylene copolymers and 5-70wt% rubber. The propylene can be a homopolymer, a reactor

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copolymer polypropylene, impact modified propylene, isotactic polypropylene, syndiotactic polypropylene, and impact copolymer polypropylene.⁴ The rubber can include natural rubber, ethylene-propylene-diene (EPDM) rubber, butyl rubber, halobutyl rubber, halogenated (e.g. brominated) copolymers of p-alkylstyrene and an isomonoolefin having from 4 to 7 carbon atoms (e.g. isobutylene), butyl rubbers containing repeat units from divinyl benzene, homo or copolymers from at least one conjugated diene, or combinations thereof.⁵

Significantly, Finerman et al. fail to disclose an elastic attachment adhesive comprising between about 70% and about 90% rubber based adhesive. This is a requirement of amended claim 1 and is a significant aspect of Applicant's invention. At column 6, lines 14-23, Finerman et al. disclose a thermoplastic vulcanizate comprising a range of from about 5 to about 70 weight percent rubber in the thermoplastic vulcanizate, desirably from about 10wt% to about 50wt%, and preferably from about 15wt% to about 45wt%; values much lower than those required in claim 1. Notably, in Table 4 at column 14, working examples of thermoplastic vulcanizates are set forth in which the thermoplastic vulcanizate compositions comprise 14.5wt%, 26.7wt%, 28.5wt%, 42.0wt% and 48.0wt% rubber; all of which are well below 70wt%. Although the disclosed range does touch the range of rubber based adhesive (between about 70% to about 90%) as claimed in amended claim 1, the principal teaching that one skilled in the art would take away from Finerman et al., noting the preferred disclosed ranges and the examples in Table 4, is that

⁴Finerman et al. specification at column 7, lines 41-46.

⁵Finerman et al. specification at column 7, lines 49-55 and column 6, lines 14-23.

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much less than 70% of rubber should be utilized in the composition. As such, Finerman et al. do not disclose the claimed range of between about 70% and about 90% rubber based adhesive with the required "sufficient specificity," as discussed above. Also, the Office has failed to set forth specific reasons for anticipation.

Additionally, Finerman et al. fail to disclose an elastic attachment adhesive composition suitable for bonding together a first elastomeric substrate and a second substrate. This is a requirement of amended claim 1 and is a significant aspect of Applicant's invention. Finerman et al. are concerned with thermoplastic vulcanizates used to form rubber-like materials such as gaskets and seals; these thermoplastic vulcanizates are not suitable for bonding a first elastomeric substrate and a second substrate as required by claim 1 as they are prepared for a completely different purpose.

Because Finerman et al. fail to disclose an elastic attachment adhesive composition comprising between about 70% and about 90% rubber based adhesive and being suitable for bonding together two substrates, Finerman et al. do not disclose each and every element of amended claim 1 as required by M.P.E.P. § 2131. As such, the Finerman et al. reference does not anticipate claim 1, and claim 1 is patentable.

Claims 2-7, and 12-13 depend from claim 1 and are patentable for the same reasons as claim 1 set forth above, as well as for the additional elements they require.

3. Rejection of Claims 1-5 and 12-13 Under 35 U.S.C. §102(b).

Reconsideration is requested of the rejection of claims 1-5

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and 12-13 under 35 U.S.C. §102(b) as being anticipated by WO 98/37144.

Claim 1, as herein amended, is discussed above.

WO 98/37144 discloses an elastomeric thermoplastic polyolefin composition comprising (I) a heterophasic olefin polymer composition comprising 5-50% of a crystalline propylene homopolymer of copolymer fraction and an elastomeric ethylene copolymer fraction and (II) 40-95% of an elastomeric polymer fraction of ethylene with propylene or with a $\text{CH}_2=\text{CHR}$ α -olefin, and optionally with minor amounts of a diene.⁶ In particular, the composition of the present invention is suitable for being used in injection and co-injection moulding, blow-moulding and extrusion processes.

Significantly, WO 98/37144 fails to disclose an elastic attachment adhesive comprising between about 70% and about 90% rubber-based adhesive selected from the group consisting of styrene-isoprene-styrene, styrene-butadiene-styrene, styrene-ethylene/propylene-styrene, styrene/ethylene-co-butadiene/styrene, and styrene-poly(ethylene-propylene)-styrene-poly(ethylene-propylene). This is a requirement of amended claim 1 and is a significant aspect of Applicant's invention.

The thermoplastic polyolefin compositions of WO 98/37144 are suitable for use in injection and co-injection moulding, blow-molding and extrusion processes. As such, WO 98/37144 additionally fails to disclose, as stated above, an elastic attachment adhesive composition suitable for bonding together a first elastomeric substrate and a second substrate as required by amended claim 1. This is another requirement of amended claim 1

⁶See WO 98/37144 specification at page 3.

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and is a significant aspect of Applicant's invention.

Because WO 98/37144 fails to disclose an elastic attachment adhesive composition comprising between about 70% and about 90% rubber based adhesive being selected from the group consisting of styrene-isoprene-styrene, styrene-butadiene-styrene, styrene-ethylene/propylene-styrene, styrene/ethylene-co-butadiene/styrene, and styrene-poly(ethylene-propylene)-styrene-poly(ethylene-propylene) and suitable for bonding a first elastomeric substrate and a second substrate, WO 98/37144 does not disclose each and every element of amended claim 1 as required by M.P.E.P. § 2131. As such, the WO 98/37144 reference does not anticipate claim 1, and claim 1 is patentable.

Claims 2-5, and 12-13 depend from claim 1 and are patentable for the same reasons as claim 1 set forth above, as well as for the additional elements they require.

4. Rejection of Claims 1-7 and 12-14 Under 35 U.S.C. §102(e).

Reconsideration is requested of the rejection of claims 1-7 and 12-14 under 35 U.S.C. §102(e) as being anticipated by Shibuya et al. (U.S. 6,235,356).

Claim 1, as herein amended, is discussed above.

Shibuya et al. disclose a resin composition for building material, particularly a resin composition for a spacer for an insulating glass. The resin composition comprises a butyl type rubber and a crystalline polyolefin, wherein the proportion of the butyl type rubber is from 50-98wt%, and the proportion of the crystalline polyolefin is from 2-50wt%, based on the total amount of the two.⁷ The butyl type rubber can be a homopolymer of

⁷Shibuya et al. at column 2, lines 59-64.

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isobutylene, a copolymer thereof with other monomers, or a modified product thereof. Preferred as the copolymer, is a copolymer obtainable by copolymerization with a relatively small amount of isoprene.⁸ The crystalline polyolefin can be a homopolymer of an olefin such as ethylene or propylene, a copolymer thereof with other monomers, or a modified product thereof, which has a crystallinity of at least 50%. The structure of the polymer is preferably a syndiotactic structure or an isotactic structure and is particularly preferably ethylene or propylene.⁹

Significantly, Shibuya et al. fail to disclose an elastic attachment adhesive comprising between about 70% and about 90% rubber-based adhesive selected from the group consisting of styrene-isoprene-styrene, styrene-butadiene-styrene, styrene-ethylene/propylene-styrene, styrene/ethylene-co-butadiene/styrene, and styrene-poly(ethylene-propylene)-styrene-poly(ethylene-propylene). This is a requirement of amended claim 1 and is a significant aspect of Applicant's invention.

Additionally, Shibuya et al. fail to disclose an elastic attachment adhesive being suitable for bonding together a first elastomeric substrate and a second substrate. This is another requirement of amended claim 1 and is a significant aspect of Applicant's invention.

Because Shibuya et al. fail to disclose an elastic attachment adhesive composition comprising between about 70% and about 90% rubber based adhesive being selected from the group consisting of styrene-isoprene-styrene, styrene-butadiene-

⁸Shibuya et al. at column 7, lines 37-42.

⁹Shibuya et al. at column 7, lines 47-54.

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styrene, styrene-ethylene/propylene-styrene, styrene/ethylene-co-butadiene/styrene, and styrene-poly(ethylene-propylene)-styrene-poly(ethylene-propylene) and being suitable for bonding a first elastomeric substrate and a second substrate, Shibuya et al. do not disclose each and every element of amended claim 1 as required by M.P.E.P. § 2131. As such, the Shibuya et al. reference does not anticipate claim 1, and claim 1 is patentable.

Claims 2-7, and 12-14 depend from claim 1 and are patentable for the same reasons as claim 1 set forth above, as well as for the additional elements they require.

5. Rejection of Claims 8-10 Under 35 U.S.C. §103(a).

Reconsideration is requested of the rejection of claims 8-10 under 35 U.S.C. §103(a) as being unpatentable over Shibuya et al. (U.S. 6,235,356).

Claims 8-10 depend from amended claim 1. As discussed above, claim 1 is patentable. As such, because claims 8-10 depend from claim 1, they are also patentable for the same reasons as claim 1, as well as for the additional elements they require.

Claim 8 further requires that the composition have a melt index between about 200 and about 2000 grams per 10 minutes.

Shibuya et al., which is directed at insulating glass, is discussed above. Although Shibuya et al. fail to disclose specific melt indexes, the Office takes the position that because melt index or melt viscosity is a result effective variable affecting the ability of the composition to flow under temperature, it would have been obvious to one skilled in the art to modify the reference using routine experimentation to determine the optimum melt index of the Shibuya et al.

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composition.


Applicant asserts that it would not have been obvious to one skilled in the art to modify a reference directed towards insulating glass spacers to determine flow characteristics for an adhesive composition as claimed in claim 1. Assuming that one skilled in the art of adhesive compositions would even consider this reference, (Applicant strongly disagrees as this reference is completely unrelated to adhesive compositions and would not be considered by one skilled in the art) such modification would not be appropriate. Claim 8 (and 9 and 10) are directed to an adhesive composition suitable for bonding a first elastomeric substrate and a second substrate. Shibuya et al. is completely unrelated to adhesive compositions and the Office cannot fairly say that it would have been obvious to modify a reference directed toward insulating glass spacers to arrive at Applicant's claim 8 which concerns an adhesive composition.

In view of the above, Applicant respectfully requests favorable reconsideration and allowance of all pending claims. The Commissioner is hereby authorized to charge any fee deficiency in connection with this Letter to Deposit Account Number 19-1345 in the name of Senniger, Powers, Leavitt & Roedel.

Respectfully Submitted,

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Christopher M. Goff, Reg. No. 41,785
SENNIGER, POWERS, LEAVITT & ROEDEL
One Metropolitan Square, 16th Floor
St. Louis, Missouri 63102
314-231-5400

CMG/JMB/dmt
Via Facsimile (703) 872-9310

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